

A Phase I Archaeological Survey  
of Proposed Borrow Areas for the Yano to Cedar  
Creek Road on the Fort Knox Military Reservation,  
Hardin County, Kentucky

by  
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16. Abstract (Limit 200 words)  In March and April 1994 the Fort Knox Staff Archeologist and Assistant Staff Archeologist conducted a Phase I archaeological survey of possible borrow areas for the Yano to Cedar Creek Road improvements on the Fort Knox Military Reservation, Hardin County, Kentucky. The project area encompassed 23.2 ha (57.3 acres). The study recorded 15Hd489 and 15Hd490, revisited 15Hd120 and 15Hd121, and tentatively relocated 15Hd246. 15Hd121 (Late Woodland or Mississippian) could not be adequately assessed due to field conditions. It is recommended that 15Hd121 be excluded from the borrow areas unless it is tested. Site 15Hd246, a limestone mound believed to be historic structural debris, may lie in a brush pile at the reported site location, but the brush pile prevented access to the site. It is recommended that 15Hd246 be excluded from borrowing until it can be tested. 15Hd120 (indeterminate), 15Hd489 (indeterminate), and 15Hd490 (Late Woodland) are small, prehistoric upland open habitation sites, and are not eligible for the National Register. It is recommended that, with the exception of the two sites in need of further investigation, the borrow areas be used as proposed.				
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## ABSTRACT

In March and April 1994 the Fort Knox Staff Archeologist and Assistant Staff Archeologist conducted a Phase I archaeological survey of possible borrow areas for road building activities associated with the Yano to Cedar Creek Road on the Fort Knox Military Reservation, Hardin County, Kentucky. Three plots of land, 2.0 ha (4.9 acres), 1.6 ha (3.9 acres), and 5.6 ha (13.9 acres) in size, had not been surveyed previously, and 14.0 ha (34.6 acres) of potential borrow area had been previously surveyed by O'Malley et al. (1980). Two prehistoric sites (15Hd120 and 15Hd121) and one historic site (15Hd246) had been previously recorded within the proposed borrow areas by O'Malley et al. (1980). Field observation during the current study recorded two additional sites (15Hd489 and 15Hd490) and revealed that much of the project areas had been significantly altered by tank training and military road building and earthmoving.

Site 15Hd121, a Late Woodland or Mississippian site, could not be adequately assessed because of heavy leaf and grass cover. It is recommended that the site location be excluded from the potential borrow areas unless Phase II testing is conducted. Site 15Hd246, a pile of limestone blocks believed to be historic structural debris, on the former property of W.D. McCullum may still be present within a large, recently-accumulated brush pile in the reported location of the site, but the brush pile prevented access to the limestone blocks. It is recommended that the area be excluded from the potential borrow areas until it can be more thoroughly assessed.

Previously recorded prehistoric site 15Hd120 contained no intact cultural deposits, and newly recorded prehistoric sites 15Hd489 and 15Hd490 contained only small, isolated, thin layers of plowzone deposits and no subplowzone deposits. These three sites are not eligible for the National Register. No additional archeological work is required at 15Hd120, 15Hd489, and 15Hd490.

It is recommended that, with the exception of the two sites in need of further investigation (15Hd121 and 15Hd246) and bearing in mind the usual stipulations related to accidental discovery, the potential borrow areas be considered available for use in road building activities as proposed.

## MANAGEMENT SUMMARY

In accordance with Executive Order 11593 and other applicable federal laws and regulations, a Phase I archaeological study was conducted of a proposed borrow area on the Fort Knox Military Reservation, Hardin County, Kentucky. A literature search revealed that approximately two-thirds of the proposed borrow area had been previously surveyed and contained prehistoric sites 15Hd120 and 15Hd121 and historic site 15Hd246. Two previously unrecorded sites, 15Hd489 and 15Hd490, were found during the survey. Field observation during the current study indicated that most of the proposed borrow areas were completely disturbed, with minimal likelihood of intact deposits, but that structural remains from the historic site might still be present within a recent pile of debris and that prehistoric site 15Hd121 needed to be tested before its availability for borrow could be determined. It is recommended that the potential borrow areas other than the locations of sites 15Hd121 and 15Hd489 be used as proposed.

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## I. INTRODUCTION

In February 1994, the Fort Knox Cultural Resources Management Branch was requested to perform a Phase I archaeological survey of proposed borrow areas for the Yano-Cedar Creek Road construction at Fort Knox, Hardin County, Kentucky (Figure 1). The determining factors for potential use as borrow areas were proximity to the road construction and the lack of trees on the surface. The first proposed borrow area chosen is located in Hunting Area 91 on the southwest side of the Yano to Cedar Creek Road. The area surveyed encompasses a rectangular block of land 2.0 ha (4.9 acres) in size that contains a slight rise on a ridge. It was part of the portion of Hunting Area 91 surveyed by O'Malley et al. (1980). The northeastern boundary of this potential borrow area, at the southern end of the project area, is formed by the present Yano to Cedar Creek Road and the other boundaries were arbitrary lines marked by trees. After the survey was completed, construction personnel from the Directorate of Public Works decided the area did not have sufficient soil to provide the needed borrow material and additional potential borrow loci were chosen in consultation with the Cultural Resources Management Branch.

The additional areas chosen as potential borrow sources consisted of a 14.0 ha strip of land on both sides of the Yano-Cedar Creek Road in Hunting Areas 91 and on the east side of a gravel road in Hunting Area 92, areas that had been surveyed by O'Malley et al., and a 1.6 ha plot in Hunting Area 89 and a 5.6 ha plot in Hunting Area 88 that had not been previously surveyed.

The strip of land along the Yano-Cedar Creek Road in Hunting Area 91 extended from the original borrow area downward to the north toward a drainage and back uphill to a rise that contained 15Hd121. Most of the 100 m wide strips on both sides of the road had been graded during previous road work, and a pedestrian survey and intermittent shovel probes indicated that it had been thoroughly altered. Site 15Hd121 had been bisected by a trail and exposed to wheeled vehicular traffic, but not to tank training. The proposed borrow area in Hunting Area 92 consisted of a hill and the slopes to the north and south. It had been previously surveyed with negative results (O'Malley et al. 1980) and no cultural material was recovered during the present project. The plot of land in Hunting Area 89 was a low rise on the ridge top that had been partially eroded and deflated by military activity and had a dirt trail encircling it. The potential borrow area in Hunting Area 88 was almost completely altered by previous borrow activities and the construction of three dirt roads through it. Roads bordered the area on two sides and the third side sloped downhill into a drainage.

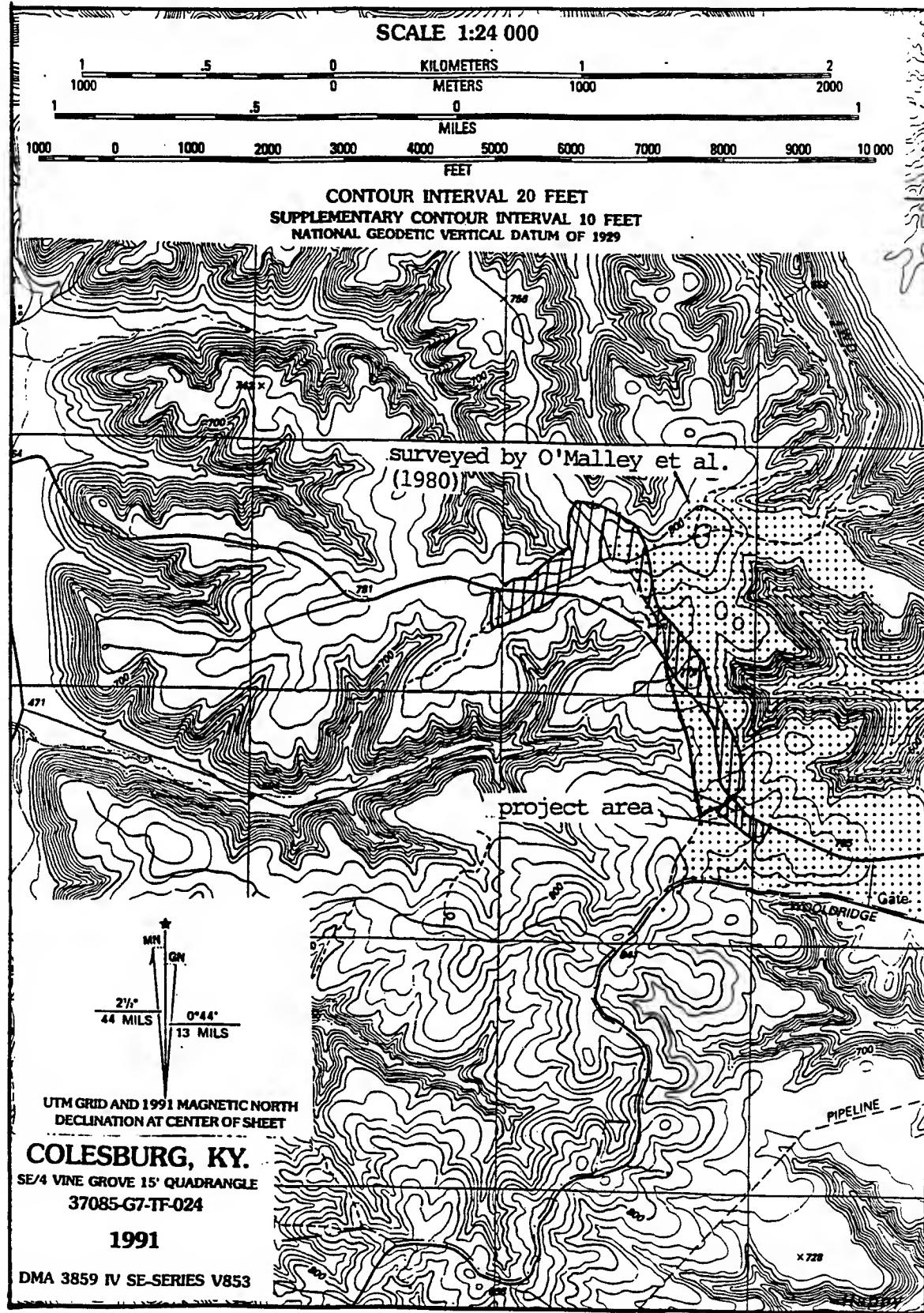


Figure 1. Location of Proposed Borrow Areas.

During July and August, 1993, the Fort Knox Staff Archeologist obtained all the documents necessary to perform Phase I literature searches for the installation. Copies of all of the state site forms for sites on the Fort Knox installation were acquired from the Office of State Archaeology (OSA), University of Kentucky, Lexington, and all reports of previous investigations on the installation or immediately adjacent to the installation from gathered from various sources. She also updated the site files by comparing the Fort Knox cultural resources quadrangle maps against the quadrangles on file at the OSA. All documents necessary to perform Phase I literature searches for the installation are present at the Cultural Resource Management Branch of the Directorate of Public Works, Fort Knox, therefore, no file check was made with the OSA and the Kentucky Heritage Council specifically for this project.

A literature search revealed that most of the project area had been previously surveyed by O'Malley et al. (1980) and that two prehistoric sites and a historic site had been recorded. During the present project, the project areas were walked and shovel probes were excavated to ascertain the condition of the previously recorded sites and to locate additional sites. The project areas are within the Plain section of the Pennyville cultural landscape, and are on one of the broad, flat-topped ridges that characterize this portion of the Mississippian Plateau physiographic region. Elevations in the project area range from 740 to 800 feet. Soils are classified as Garmon-Caneyville-Lenberg soil association ( U.S.D.A. 1979 General Soil Map). The project area is on a ridge above numerous drainages that form the headwaters of tributaries of Cedar Creek (west), the Rolling Fork River (east), and a creek in Brewer Hollow (southeast).

The archaeological survey was conducted in preparation for the removal of borrow materials for the improvement of the Yano to Cedar Creek Road, Fort Knox Directorate of Public Works Work Order LA003943J. The archaeological survey and literature review were required to comply with the National Environmental Protection Act, or NEPA, (Public Law 91-190), the Historic Preservation Act of 1966, as amended (Public Law 89-665), the Archaeological Resources Protection Act of 1979 (Public Law 96-95), Presidential Executive Order 11593, and Army Regulation 420-40.

The project areas were surveyed on March 1 and March 24, 1994, by the Staff Archeologist and Assistant Staff Archeologist (Resumés in Appendix A), and on April 14, 1994, by the Assistant Staff Archeologist. A total of 10 person hours were spent on the fieldwork. The artifacts collected in this survey and the documentation of this project will be curated at the University of Louisville Program of Archaeology, on a "permanent loan" basis, under contract number DABT 23-93-C-0093, for curatorial and technical support (copy of contract on file, DPW, Fort Knox, Kentucky).

Duplicate copies of the documentation will be stored at the Directorate of Public Works (DPW), U.S. Army Armor Center and Fort Knox, Fort Knox, Kentucky.

## II. ENVIRONMENTAL SETTING

O'Malley et al. (1980) presented a detailed description of the setting and environmental background of the Fort Knox base as a whole. This section will concentrate on the characteristics of the project area.

The project area lies in the Mississippian Plateau physiographic region of Kentucky (McGrain and Currens 1978:35). The terrain is characterized by broad, flat-topped ridges and adjoining narrow, steep-walled stream valleys (McGrain and Currens 1978:35). Elevations in the project area range from 740 to 800 feet. Soils are classified as Garmon-Caneyville-Lenberg soil association (Arms et al. 1979: General Soil Map), very steep to moderately steep, moderately deep, well drained soils on hillsides, narrow ridges, and foot slopes. Two previously recorded sites (15Hd120 and 15Hd246) and one newly recorded site (15Hd490) were located on Nicholson silt loam, a moderately well drained soil formed on ridge tops and benches on rolling uplands (Arms et al. 1979:33). One of the previously recorded sites (15Hd121) and one newly recorded site (15Hd489) were on Hagerstown silt loam, a well drained soil that forms on narrow ridge tops and karst areas (Arms et al. 1979:25). A small portion of the north end of the project area was part of the Caneyville-Rock outcrop complex, well drained soils and limestone outcrops on side slopes and narrow ridge tops and in karst areas (Arms et al. 1979:13). There is a small area of Garmon silt loam, a well drained soil on hillsides (Arms et al. 1979:24), on the sides of the drainage at the northwest end of the project area.

The project area is on a ridge above numerous drainages that form the headwaters of tributaries of Cedar Creek (west), the Rolling Fork River (east), and a creek in Brewer Hollow (southeast). Most of the survey area had been previously disturbed by earthmoving activities and had scrub growth, small trees, and grass cover. Some portions were still denuded.

## III. PREVIOUS RESEARCH

A number of cultural resource management (CRM) projects have been conducted on the Fort Knox military reservation. Numerous projects also have been conducted in the portions of Bullitt, Meade, and Hardin Counties outside the military reservation, according to the state archaeological bibliog-

raphy and updates. O'Malley et al. (1980) provide an in-depth discussion of research in Bullitt, Hardin, and Meade counties through 1979, and Schenian (1991) and Schenian and Mocas (1992) provide a summary of the research which has taken place since the O'Malley et al. (1980) study was completed. This section will focus on the projects which have been conducted on the military reservation and within the vicinity of the current project area.

There are 112 Hunting Areas on the Fort Knox installation. O'Malley et al. (1980) surveyed approximately one-quarter of each of the 96 hunting areas which did not contain grenade ranges. O'Malley et al. (1980) recorded 415 sites (15Bu295 through 15Bu410, 15Hd109 through 15Hd294, and 15Md103 through 15Md242). Some of these sites were recorded outside the official survey areas, and were discovered while gaining access to the selected survey areas from the closest access road. Some of the sites are isolated finds. O'Malley et al. (1980) did not formally evaluate the National Register status of any of the sites inspected, although opinions are offered on many of the site forms. The purpose of the O'Malley et al. (1980) study was to provide a preliminary inventory of portions of the installation and to develop a database for the predictive modeling of site locations on the installation, and not to evaluate sites for a task-specific construction project. Holmberg (1991) prepared an archival study on the four mill sites (15Md164, 15Md176, 15Md185, and Grahamton) recorded by O'Malley et al. (1980) in the Meade county section of the base. Holmberg's (1991) study includes an appendix (Ball 1991a) delimiting a scope of services for the testing of the mill sites. This testing has not yet been conducted.

A number of projects have been conducted in conjunction with proposed timber harvests. Bush et al. (1988) revisited 15Bu319 and recorded sites 15Hd438 through 15Hd446 and 15Bu485 through 15Bu491 in their survey of timber areas in Hunting Areas 41, 42, and 52. Myers (1990) surveyed 287 acres in Hunting Area 95, recording 15Bu495 through 15Bu502, and describing modern house and garbage dump sites. Mueller (1991) surveyed 270 acres in Hunting Area 1, revisiting 15Md11, 15Md152, and 15Md159, and recording 15Md322 through 15Md325, two historic cemeteries, five prehistoric isolated finds, and three modern structures. Schenian and Mocas (1992) surveyed 600 acres and attempted to relocate and flag previously recorded sites in an additional 300 acres. Their project areas consisted of 14 timber parcels located in Hunting Areas 13, 74, 76, 77, 78, 81 through 84, and 88 through 90. This survey resulted in the recording of sites 15Hd462, 15Hd463, 15Hd464, 15Md326, and one isolated find, and the revisiting of 15Hd140. Attempts were made to relocate 15Hd18, 15Hd113, and 15Hd139, but were unsuccessful. Ruple (1992b) revisited sites 15Md152, 15Md153, and 15Md322 in Hunting Area 1. Ruple (1992a) revisited sites 15Hd184, 15Hd186, and 15Hd249, and made an unsuccessful attempt to

relocate 15Hd248, in order to flag avoidance boundaries around the sites in Hunting Area 90 in preparation for logging activities in conjunction with the clearing of the Highway 313 easement. Ruple (1993a) surveyed all 813 acres comprising Hunting Area 4 in preparation for timber harvests in scattered parcels within the Hunting Area.

The improvement of facilities on the Fort Knox installation has resulted in several CRM studies. Sorensen and Ison (1979) surveyed a proposed telephone building expansion site and access road in the cantonment area, recording no sites. Sussenbach (1990) surveyed three weather radar installation sites, in Hunting Area 23, discovering one prehistoric isolated find. Ruple (1993b) surveyed approximately 10 acres in the cantonment area for a shoreline maintenance project, encountering no sites. Mocas (1993) reported on the examination of approximately 165 acres in and around a proposed landfill and borrow area, and he (Mocas 1994a) surveyed approximately 69.7 acres for a proposed sports complex, encountering no sites in either project.

The development, expansion, or improvement of training areas has resulted in a number of CRM studies. Driskell and O'Malley (1979) surveyed the Wilcox Gunnery Range, recording sites 15Bu393 through 15Bu397. Schenian (1991) surveyed 116 acres in portions of Hunting Areas 17, 30, and 41, in conjunction with the Fort Dix realignment, re-examining 15Bu303, and recording 15Bu492, 15Hd459, and two prehistoric isolated finds. Hemberger (1991) also surveyed approximately 405 acres in seven construction sites in Hunting Areas 17, 24, 31, 32, 34, and 54, in conjunction with the Fort Dix realignment. This study resulted in the recording of 15Hd461 and 15Bu504, the revisiting of 15Bu299 and 15Bu385, and the unsuccessful attempt to relocate previously recorded site 15Hd274. Hemberger (1991) surveyed a total of 126 acres in four proposed construction areas in the Yano-Tank Range, in Hunting Area 93, recording 15Hd460, revisiting 15Hd178, 15Hd182, and 15Hd282, and unsuccessfully attempting to relocate previously recorded site 15Hd283. Hemberger (1992) surveyed a 7.5 acre borrow area in Hunting Area 24, proposed to be used for the consolidation and improvement of two training ranges, and encountered no sites.

In conjunction with land sales, Ball (1987) surveyed approximately 196 acres in the Bullitt County portion of Fort Knox, recording sites 15Bu479 through 15Bu481 and describing one post-1950, or modern, house foundation. Ball (1991b) also surveyed a 19 acre tract near Radcliff prior to disposal of the tract, recording two historic/modern trash dumps which were not assigned state site numbers. Hale (1981) surveyed the Otter Creek Park, recording 15Md243 through 15Md303. Portions of Otter Creek Park, now owned by the City of Louisville, were once part of the Fort Knox military installation, but were disposed of in the 1970's.

Road construction and improvements have resulted in a number of CRM projects on the military reservation. McGraw (1976) surveyed the proposed U.S. 60 bridge and approaches near Otter Creek park, encountering no sites in a 2.35 mile long corridor which passes through Hunting Areas 7 through 9 and 11 and 12. Fiegal (1982) surveyed the Radcliff Industrial Park access road, including land in Hunting Area 15 as well as off the installation. He recorded 15Hd403 and 15Hd404 off the installation, and revisited 15Hd215 and 15Hd272 on the installation. Webb and Brockington (1986) surveyed the 4.75 mile long Kentucky Highway 1638 realignment corridor, which included portions of Hunting Areas 5 and 7 through 10. They revisited sites 15Md176, and 15Md182 through 15Md185, and recorded 15Md306, 15Md307, and 15Md309. Sites 15Md176, 15Md182, 15Md183, and 15Md307 were all parts of the former town of Garnettsville. The latter three sites were tested (Wheaton 1982), but 15Md176 was not tested because it fell outside the 1638 realignment easement. DiBlasi (1986) surveyed 14 alternative alignments of the approximately 20 km (12.4 miles) long Kentucky Highway 313 corridor, which includes portions of Hunting Areas 80 through 83 and 90, as well as land outside the installation. A total of 27 sites (15Hd406-15Hd430 outside the installation, and 15Hd135, 15Hd184, 15Hd186, 15Hd248, 15Hd249, 15Hd253, 15Hd431, and 15Hd432 on the installation), some previously recorded, were located in the survey corridor. Hixon (1992) tested 15Hd423 and 15Hd426, and archaeologists from Wilbur Smith Associates tested six sites on the installation, including 15Hd249 and 15Hd253 (Fenton 1993: personal communication to Schenian).

In addition to the CRM projects, several sites have been recorded on the military reservation in non-CRM contexts. Funkhouser and Webb (1932) published a catalog of archaeological sites in the state, with the information gained primarily through correspondence with amateur archaeologists, collectors, and local historians, and included the description of two sites now on the military reservation. These are 15Md10, a mound group on Indian Hill, and 15Md11, a mound near the mouth of Otter Creek (Funkhouser and Webb 1932: 281). Lee Hanson recorded 15Hd17 and 15Hd18, while attending ROTC training camp at Fort Knox in 1961 (Hanson 1961a, 1961b; Dr. R. Berle Clay 1991: personal communication). The wife of a soldier stationed at Fort Knox partially excavated 15Hd273, a mound in Hunting Area 6, in 1955 (Anonymous 1955).

Of greatest relevance to the present project is the work of O'Malley et al. (1980), which reported the two sites within the project area and 11 sites within approximately one kilometer. No archaeological sites or standing structures listed on or eligible for listing on the National Register of Historic Places are located in or immediately adjacent to the current project areas.

#### IV. SURVEY PREDICTIONS

Based on previous archaeological research in the area, the history of settlement, and the environmental setting of the project area, the following results were expected:

- 1) O'Malley et al. (1980) reported the presence of three sites within the project area.
- 2) Due to the amount of previous road building and tank training in the vicinity, it was expected that most sites would be partially or completely destroyed.
- 3) Both historic and prehistoric sites have been found on adjacent ridges in settings similar to that of the project area, thus it was expected that some sites would be encountered.
- 4) The presence of numerous drainages descending from the ridge top, indications of former springs, suggested the project area had a high potential for prehistoric and historic sites.

#### V. FIELD METHODS

The determining factors for the selection of the potential borrow areas were proximity to the road construction and the lack of trees on the surface. Most of the project area had been used for tank training or scraped for road construction and had scrub vegetation or none at all. Much of the area had subsoil exposed and visibility frequently was nearly 100 percent. Bulldozer tracks along both sides of the road in Hunting Area 91 provided good visibility.

In general, the project area was systematically walked in transects at 10 m intervals. If the ground surface was obscured by vegetation for greater than 10 m within a transect, then a shovel probe was excavated and the fill was trowel sorted. Shovel probes were excavated throughout the project area to ascertain the extent and method of disturbance.

Upon discovery of archaeological materials, the ground surface of the area around the find was walked in transects spaced at 5 m intervals, until no additional materials were recovered for a distance of 20 m within a transect. The fill from shovel probes in the vicinity of potential sites was screened through one-quarter inch hardware cloth prior to backfilling of the tests. In general, shovel probes were

excavated at the location of the initial surface find and 5 m in each cardinal direction, and additional shovel probes were used to delimit the site and examine the depositional characteristics. Figures C-1 through C-5 in Appendix C depict the locations and plan views of the sites encountered in the project area, and Figure C-6 illustrates representative soil profiles of the sites that were shovel probed.

At 15Hd121, a moderate amount of debitage was recovered from a trail during the original survey (O'Malley et al. 1980), and according to the state site form on file at the Office of State Archaeology the site was shovel probed, but there was no record of the results on the site form or in the report (O'Malley et al. 1980). The trail has since grown over with grass and been covered with leaves, so a series of eight shovel probes were excavated during the present survey to determine the depositional characteristics of the site and the disturbed areas.

Several attempts were made to examine the interior of the dense concentration of recent debris on 15Hd246, but the pile of brush could not be safely penetrated. This area was reported to contain a concentration of limestone blocks 3 m in diameter and 1 m high, believed to be the remains of a historic structure. Shovel probes indicated that no intact historic or prehistoric deposits were present outside the debris.

## VI. MATERIALS RECOVERED

The following paragraphs summarize the typologies used in the sorting and analysis of the artifacts. The total number of artifacts collected from each site is broken down by prehistoric artifact types.

### Projectile Point

A projectile point is a bifacially worked chipped stone tool which is generally assumed to have been hafted for use as a hunting implement, such as a spear head or arrowhead, but may have an alternative or additional use as a cutting implement.

Chert debitage is a catchall category used to describe the material generally created as a by-product in the manufacture of more formally defined chipped stone tools. Chert debitage may be further divided into the categories of flakes, blocky chert pieces, and chert shatter. It may also be classified by stage of manufacture and by evidence for use as an informal, or expedient, tool. The following criteria have been applied to sort the chert debitage collected in this study:

- 1) Flakes are defined by the presence of a striking platform and bulb of percussion. Concentric rings or ripple marks on the ventral surface, and feather terminations may also be present. Flakes are classified as primary flakes if 90 percent or more of the dorsal surface (the side opposite the bulb of percussion) is covered by cortex or rind; as secondary flakes if one to 90 percent of the dorsal surface is covered by cortex; and as tertiary flakes if no cortex is present on the dorsal surface.
- 2) A chert piece is classified as shatter if it is a flat, generally small, piece exhibiting some flake-like characteristics, but is insufficiently complete to classify the piece as a primary, secondary or tertiary flake.
- 3) A microflake is a complete flake that is less than 5 mm in length, generally associated with fine retouch or resharpening of tools.
- 4) A piece of chert debitage is classified as utilized if at least three contiguous small flakes have been removed from one or more edges by use rather than retouch.
- 5) A piece of chert debitage is classified as unutilized if it exhibits no evidence of the removal of small flakes through use.

#### Materials Recovered by Site

##### 15Hd120

A total of eight pieces of chert debitage were recovered from the surface of 15Hd120. Four tertiary flakes, a large unifacially tested flake, and three pieces of shatter were found in an area about 10 m in diameter. These were deposited by deflation of the topsoil, which is no longer present.

##### 15Hd121

The surface of the site had almost no bare spots, and the trail exposed during the initial survey (O'Malley et al. 1980) was covered with grass and leaves. One piece of shatter and one tertiary flake were found on the surface; one piece of shatter was found in STP #1; one piece of shatter and a tertiary flake were found in STP #5; and one piece of shatter was found in STP #6. All the flakes were found in the plowzone of the shovel probes.

15Hd489

A total of 12 pieces of chert debitage were recovered from the site. One primary flake, five tertiary flakes, two micro flakes, and two pieces of shatter were found in an area about 80 m by 20 m in size on the surface of the service road or in dirt displaced by road building. One piece of shatter was found in the plowzone of STP #1 and one piece in the fill dirt above the topsoil.

15Hd490

A projectile point and 30 pieces of chert debitage were recovered from the site. A Hamilton Incurvate projectile point (Figure 2), two utilized flakes, two secondary flakes, 10 tertiary flakes and nine pieces of shatter were found on the surface of an area about 30 m in diameter. STP #2 yielded two tertiary flakes and a piece of shatter in the plowzone of the probe, and three tertiary flakes and a piece of shatter were recovered from the plowzone of STP #5.

## VII. CULTURAL RESOURCES

### Cultural Resources Inspected

UTM locations are listed in Appendix B. The site locations, plan views, and soil profiles are listed in Appendix C.

15Hd120

Site 15Hd120 was recorded by O'Malley et al. (1980) in Hunting Area 91 (Figure C-1). O'Malley et al. (1980:259) described the site as a prehistoric general manufacturing site located on the crest of a linear ridge near Brewer Hollow (Figure C-2). A small amount of cultural material was found over a 50 m by 75 m area. The present survey resulted in the recovery of a small number of chert flakes, but no intact prehistoric cultural deposits were encountered because the upper soil layers had been disturbed by wheeled and tracked vehicles and subsequently eroded.

Site 15Hd120 is not eligible for the National Register because most of it has been destroyed by training activities and severe erosion, because it is of indeterminate cultural-temporal affiliation, and because there was no evidence of potentially intact cultural deposits. No additional archaeological work is recommended for 15Hd120.

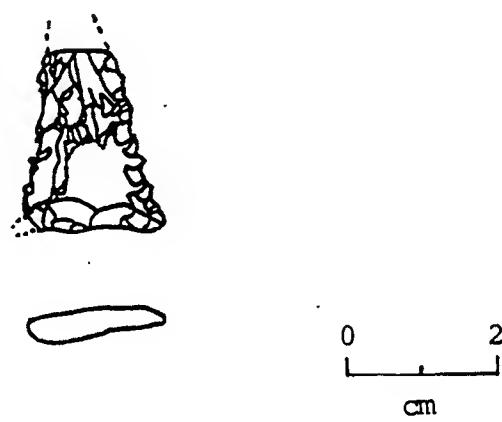


Figure 2. Hamilton Incurvate Projectile Point from 15Hd490.

15Hd121

Site 15Hd121 was recorded by O'Malley et al. (1980) in Hunting Area 91 (Figure C-1). O'Malley et al. (1980: 259-260) describe the site as a Mississippian or Fort Ancient general manufacturing site, however, it is the opinion of the present author that the triangular projectile point recovered from the site by O'Malley et al. could be of Late Woodland cultural affiliation. During the original survey, a moderate to large amount of cultural material was found in road cuts in an area 35 m by 5 m in size. The surface of the site and the trail that was the source of the original collection were completely overgrown and leaf covered during the present survey and limited visibility to nearly zero percent. Only two pieces of chert were found on the surface in the current survey.

The site is on the top of a low hill to the northeast of the Yano-Cedar Creek Road (Figure C-3). A strip of land at the southwestern end of the site, adjacent to the road, was scraped to subsoil during previous road building, and some of the soil from this area was piled inside the tree line. The wooded area is level over an area at least 60 m (southwest-northeast) by 40 m, which correlates with the approximate site size indicated on the state site form. The wheeled vehicle trail examined by O'Malley et al. was eroded to subsoil, though covered with vegetation, and an area about 20 m square near the center of the site has only about 4 cm of topsoil. This area may have been scraped or intensively used, possibly as a bivouac or operations locus adjacent to the trail. Approximately 11-12 cm of topsoil was present over most of the site (Figure C-6), and subsurface features are likely to be preserved if present, but no midden was encountered. Eight shovel probes were excavated, four on each side of the trail generally at 20 m intervals along the trail. Only three pieces of shatter and a tertiary flake were recovered from the probes.

Site 15Hd121 is considered potentially eligible for the National Register primarily because the dense vegetation and leaf cover prevented a thorough evaluation of the site. It is recommended that the site area not be used for borrow activities, unless more intensive archeological investigations are conducted at 15Hd121.

15Hd246

Site 15Hd246 was recorded by O'Malley et al. (1980) in Hunting Area 91 (Figure C-1). O'Malley et al. (1980:261) describe the site as a limestone mound 3 m in diameter and 1 m high, of unknown cultural affiliation. The pile of limestone blocks, believed to be historic structural debris, was found on the former property of W.D. McCullum, according to the Fort Knox land acquisition maps. These remains may

still be present within a large, recently-accumulated brush pile in the reported location of the site (Figure C-2), but the brush pile prevented access to the limestone blocks.

Site 15Hd246 is considered potentially eligible for the National Register by default, because it could not be positively identified or assessed in this surveyed. It is recommended that the brush pile which contains 15Hd246 not be used for borrow activities, unless further archeological investigations are conducted. These investigations should include the careful removal of the brush pile to permit the field inspection of 15Hd246, as well as archival research to determine the chronology of site use.

#### 15Hd489

Site 15Hd489 is a lithic scatter of indeterminate prehistoric cultural-temporal affiliation found north of the Yano-Cedar Creek Road in Hunting Area 91 (Figure C-1). The site is located at an elevation of 800 feet on a relatively level ridge top, within 250 m of three drainages that probably had at least seasonal springs. Most of the site was disturbed by earthmoving related to the building of three small, dirt roads (Figure C-4). Much of the area was graded to subsoil or scraped across the surface then covered with fill dirt. There was considerable disturbance from military vehicles. Redeposited cultural materials were scattered sparsely over an 80 m by 20 m area along the main roadcut or directly adjacent to it. The roadcuts provided vertical profiles of the soil layers, and no evidence of features or artifact concentrations were found. The soil on the site was Hagerstown silt loam. Weeds and a few small trees were present on the heavily eroded and disturbed surface, which provided about 80 percent visibility. One shovel probe (Figure C-6) produced one chert flake in the topsoil and one flake in redeposited fill dirt above the topsoil. The other shovel probe yielded no artifacts and had a disturbed soil profile.

Site 15Hd489 is not eligible for the National Register because most of it has been destroyed by road building activities and severe erosion, because it is of indeterminate cultural-temporal affiliation, and because there was no evidence of potentially intact cultural deposits. No additional archaeological work is recommended for 15Hd489.

#### 15Hd490

Site 15Hd490 is a lithic scatter of Late Woodland cultural affiliation found on the south side of the Yano-Cedar Creek Road in Hunting Area 89 (Figure C-1). The site is located at an elevation of 780 feet on a knoll on a relatively level ridge top, within 100 m of a drainage that

probably had at least a seasonal spring. The surface had been considerably disturbed by military vehicles and most of the topsoil was deflated (Figure C-5). Cultural materials were scattered sparsely over a 30 m by 30 m area. A concentration of cultural materials, including a Hamilton Incurvate projectile point (Figure 2), was present near the southwest margin of the site, but this may have been a result of erosion. The soils in the site area are Nicholson silt loam. Weeds and grasses were present on the partially eroded surface, which allowed 50 to 100 percent visibility. Shovel probes recovered seven chert flakes in the topsoil (Figure C-6), but no midden was encountered.

Site 15Hd490 is not eligible for the National Register, because most of the site has been destroyed or disturbed by training activities and severe erosion, and because there is little likelihood of intact cultural deposits. No additional archaeological work is recommended for 15Hd490.

#### VIII. CONCLUSIONS AND RECOMMENDATIONS

The Phase I literature search of the proposed borrow areas revealed that part of the project area had been previously inspected and three sites had been recorded (15Hd120, 15Hd121, and 15Hd246). The entire project area was field inspected during the current study. The inspection of the project area resulted in the discovery of two additional archaeological sites (15Hd489 and 15Hd490).

It was determined that previously recorded prehistoric site 15Hd120 no longer has intact deposits. Previously recorded site 15Hd121 was reexamined, but the heavy grass and leaf cover prevented adequate assessment. It is recommended that this site be avoided during borrow activities and during future earthmoving activities until it can be more intensively studied. Site 15Hd246, the pile of limestone blocks that may represent historic structural remains, was within a recent brush pile and could not be adequately assessed. It is recommended that surrounding area be used as a borrow area as proposed, but that the pile of debris be avoided until it can be determined whether historical structural remains are present beneath it. Sites 15Hd121 and 15Hd246 are considered potentially eligible for the National Register by default as a result of conditions not conducive to their thorough assessment.

Site 15Hd489 and 15Hd490 have been disturbed thoroughly by earthmoving, training, and erosion. Sites 15Hd120, 15Hd489, and 15Hd490 are not eligible for the National Register. It is recommended that they be available for use as borrow areas.

In the remote possibility that archaeological materials are discovered during earthmoving activities all activity in the vicinity of the finds must cease and the State Historic Preservation Officer (502-564-6661) and the DPW Cultural Resource Management Branch (502-624-6581) should be contacted, so a representative of those agencies may evaluate the materials. Also, if human remains, regardless of age or cultural affiliation, are discovered, all activity in the vicinity of the remains must cease immediately, and the state medical examiner (502-564-4545) and the appropriate local law enforcement agency (Fort Knox Law Enforcement Command, 502-624-6852) must be contacted, as stipulated in KRS 72.020.

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APPENDIX A.  
RESUMES OF KEY PERSONNEL

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Staff Archeologist and Project Principal Investigator

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ATTN: ATZK-DPW (Schenian)  
U.S. Army Armor Center and Fort Knox  
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Phone: (502) 624-6581

Date and Place of Birth: January 1, 1959; Waukesha, WI.

Present Position: J.M. Waller & Associates/Fort Knox Staff  
Archeologist and Cultural Resource Manager

Education:

A.B.D. in Anthropology, Northwestern University, 1984.  
M.A. in Anthropology, Northwestern University, 1982.  
A.B. in Anthropology, Bryn Mawr College, 1980.

Previous Employment:

Senior Staff Archeologist, Archeology Service Center,  
Department of Sociology, Anthropology, and Social Work, Murray  
State University, Murray, KY, November 1991-June 1993;  
Staff Archeologist, November 1983-November 1991.

Southern Illinois University, Carbondale, IL: Field  
Technician, November-December 1985, September-October 1984.

Illinois State Museum Society, Springfield, IL: Field  
Assistant II (Supervisor), summer 1983; Field Technician,  
summer 1981.

Center for American Archeology, Kampsville, IL: Field  
Technician, summer 1982.

Department of Anthropology, Northwestern University,  
Evanston, IL: Teaching Assistant, 1981-82 academic year.

Great Lakes Archeological Research Center, Milwaukee,  
WI: Field Technician, summer 1979.

Field Research Experience:

Field experience on prehistoric and historic archeological  
projects in the states of Illinois, Indiana, Kentucky,  
New Jersey, South Dakota, Tennessee, and Wisconsin, 1979-  
present.

Professional Publications, Reports, Papers and Manuscripts:  
84 CRM contract reports on projects in Indiana, Kentucky,  
and Tennessee.

1 Homocide site excavation contract report prepared in lieu  
of court testimony in Illinois.

7 Papers presented at professional conferences.

5 Publications, 1 in press.

Doctoral candidacy qualifying paper: "A Theory of Individual  
Style Variation for Archeological Studies".

Manuscript submitted in partial fulfillment of the M.A.  
requirements: "Models of Environmental-Cultural Relationships:  
Testing with Archeological Evidence".

Stephen T. Mocas  
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Present Position: University of Louisville Program of  
Archaeology/Fort Knox Assistant Staff Archeologist

**Education:**

Completed one year of doctoral program, Southern Illinois University, Carbondale, Illinois, 1972.  
B.A. in Anthropology, University of Louisville, 1971.

**Previous Employment:**

Indiana University, Bloomington, Indiana: Staff Archaeologist, September 1991-November 1993.

Murray State University, Murray Kentucky: Staff Archaeologist, November 1991-November 1993.

Jefferson Community College, Louisville, Kentucky.  
Anthropology Instructor, August 1981-December 1982.

Louisville School of Art, Louisville, Kentucky: Anthropology Instructor, January-May 1976.

University of Louisville Archaeological Survey, Louisville, Kentucky. Project Director, Field Supervisor, or Research Assistant on various projects, July 1969-January 1977.

State University of New York of Buffalo, Buffalo, New York. Senior Field Worker, June-August 1970.

**Field Research Experience:**

Field experience, Phase I-III, prehistoric and historic archaeological projects in the states of Illinois, Indiana, Kentucky, New York, and Tennessee, 1969-present.

**Research Grants:**

Six grants for fieldwork and research.

Professional Publications, Reports, Papers and Manuscripts:  
3 non-contract site reports on projects  
12 CRM contract reports on projects  
5 Chapters in additional site reports.  
4 Publications, 1 in press.

APPENDIX B.  
UTM COORDINATES OF CULTURAL RESOURCES

APPENDIX C.  
LOCATION OF CULTURAL RESOURCES, SITE PLANS, AND  
SOIL PROFILES